

FIGURE 1

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FIG. 2

Human G Protein Coupled Receptor Family
(Receptors known as of January, 1999)

CLASS	LIGAND	NUMBER	TISSUE	PHYSIOLOGY	THERAPEUTICS
•Class I	Rhodopsin like				
	•Amine				
	•Acetylcholine				
	(muscarinic & nicotinic)	5	Brain, Nerves, Heart	Neurotransmitter	Acuity, Alzheimer's
	•Adrenoceptors				
	•Alpha Adrenoceptors	6	Brain, Kidney, Lung	Gluconeogenesis	Diabetes, Cardiovascular
	•Beta Adrenoceptors	3	Kidney, Heart	Muscle Contraction	Cardiovascular, Respiratory
	•Dopamine	5	Brain, Kidney, GI	Neurotransmitter	Cardiovascular, Parkinson's
	•Histamine	2	Vascular, Heart, Brain	Vascular Permeability	Anti-inflammatory, Ulcers
	•Serotonin (5-HT)	16	Most Tissues	Neurotransmitter	Depression, Insomnia, Analgesic
	•Peptide				
	•Angiotensin	2	Vascular, Liver, Kidney	Vasoconstriction	Cardiovascular, Endocrine
	•Bradykinin	1	Liver, Blood	Vasodilation,	Anti-inflammatory, Asthma
	•C5a-anaphylatoxin	1	Blood	Immune System	Anti-inflammatory
	•Fmet-leu-phe	3	Blood	Chemoattractant	Anti-inflammatory
	•Interleukin-8	1	Blood	Chemoattractant	Anti-inflammatory
	•Chemokine	6	Blood	Chemoattractant	Anti-inflammatory
	•Orexin	2	Brain	Fat Metabolism	Obesity
	•Nociceptin	1	Brain	Bronchodilator, Pain	Airway Diseases, Anesthetic
	•CCK (Gastrin)	2	Gastrointestinal	Motility, Fat Absorption	Gastrointestinal, Obesity, Parkinson's
	•Endothelin	2	Heart, Bronchus, Brain	Muscle Contraction	Cardiovascular, Respiratory
	•Melanocortin	5	Kidney, Brain	Metabolic Regulation	Anti-inflammatory, Analgesics
	•Neuropeptide Y	5	Nerves, Intestine, Blood	Neurotransmitter	Behavior, Memory, Cardiovascular
	•Neurotensin	1	Brain,	CNS	Cardiovascular, Analgesic
	•Opioid	3	Brain,	CNS	Depression, Analgesic
	•Somatostatin	5	Brain, Gastrointestinal	Neurotransmitter	Oncology, Alzheimer's

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FIG. 2 (cont.)

•Tachykinin (Substance P, NKA ₁)	3	Brain Nerves	Neurohormone	Depression, Analgesic
•Thrombin	3	Platelets, Blood Vessels	Coagulation	Anti-coagulant, Anti-inflammatory
•Vasopressin-like	4	Arteries, Heart, Bladder	Water Balance	Anti-diuretic, Diabetic Complications
•Galanin	1	Brain, Pancreas	Neurotransmitter	Analgesics, Alzheimer's
•Hormone protein				
•Follicle stimulating hormone	1	Ovary, Testis	Endocrine	Infertility
•Lutropin-choriogonadotropic	1	Ovary, Testis	Endocrine	Infertility
•Thyrotropin	1	Thyroid	Endocrine	Thyroidism, Metabolism
•(Rhod)opsin				
•Opsin	5	Eye	Photoreception	Ophthalmic Diseases
•Olfactory	4(~1000)	Nose	Smell	Olfactory Diseases
•Prostanoid				
•Prostaglandin	5	Arterial, Gastrointestinal	Vasodilation, Pain	Cardiovascular, Analgesic
•Lysophosphatidic Acid	2	Vessels, Heart, Lung	Inflammation	Cancer, Anti-Inflammatory
•Sphingosine-1-phosphate	2	Most Cells	Cell proliferation	Cancer
•Leukotriene	1	White Blood Cells, Bronchus	Inflammation	Asthma, Rheumatoid Arthritis
•Prostacyclin	1	Arterial, Gastrointestinal	Platelet Regulation	Cardiovascular
•Thromboxane	1	Arterial, Bronchus	Vasoconstriction	Cardiovascular, Respiratory
•Nucleotide-like				
•Adenosine	4	Vascular, Bronchus	Multiple Effects	Cardiovascular, Respiratory
•Purinoceptors	4	Vascular, Platelets	Relaxes Muscle	Cardiovascular, Respiratory
•Cannabis 2	Brain	Sensory Perception	Analgesics, Memory	
•Platelet activating factor	1	Most Peripheral Tissues	Inflammation	Anti-inflammatory, Anti-asthmatic
•Gonadotropin-releasing hormone like				
•Gonadotropin-releasing hormone	1	Reproductive Organs, Pituitary	Reproduction	Prostate Cancer, Endometriosis
•Thyrotropin-releasing hormone	1	Pituitary, Brain	Thyroid Regulation	Metabolic Regulation
•Growth hormone-inhibiting factor	1	Gastrointestinal	Neuroendocrine	Oncology, Alzheimer's
•Melatonin	1	Brain, Eye, Pituitary	Neuroendocrine	Regulation of Circadian Cycle

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FIG. 2 (cont.)

•Class II				
Secretin like				
•Secretin	1	Gastrointestinal, Heart	Digestion	Obesity, Gastrointestinal
•Calcitonin	1	Bone, Brain	Calcium Resorption	Osteoporosis
•Corticotropin releasing factor/urocortin	1	Adrenal, Vascular, Brain	Neuroendocrine	Stress, Mood, Obesity
•Gastric inhibitory peptide (GIP)	1	Adrenals, Fat Cells	Sugar/Fat Metabolism	Diabetes, Obesity
•Glucagon 1	1	Liver, Fat Cells, Heart	Gluconeogenesis	Cardiovascular
•Glucagon-like Peptide 1 (GLP-1)	1	Pancreas, Stomach, Lung	Gluconeogenesis	Cardiovascular, Diabetes, Obesity
•Growth hormone-releasing hormone	1	Brain	Neuroendocrine	Growth Regulation
•Parathyroid hormone	1	Bone, Kidney	Calcium Regulation	Osteoporosis
•PACAP	1	Brain, Pancreas, Adrenals	Metabolism	Metabolic Regulation
•Vasoactive intestinal polypeptide (VIP)	1	Gastrointestinal	Motility	Gastrointestinal
•Class III				
•Metabotropic Glutamate	7	Brain	Sensory Perception	Hearing, Vision
•GABA _B	1	Brain	Neurotransmitter	Mood Disorders
•Extracellular Calcium Sensing	1	Parathyroid, Kidney, GI Tract	Calcium Regulation	Cataracts, GI Tumors

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Figure 3**G protein-coupled receptors:**

(Division into Class A

Or Class B)

1. **A1 adenosine receptor** [Homo sapiens]. ACCESSION AAB25533
NPIVYAF RIQKFRVTFL KIWNDFHRCQ PAPPIDEDLP EERPDD
Class A (SEQ ID NO: 1)
2. **adrenergic, alpha -1B-, receptor** [Homo sapiens]. ACCESSION NP_000670
npiitypc sskefkrafv rilgcqcrgr grmmrrrr lggcaytyrp wtrggslers qsrkdsldds gscslgsqrt lpsaspspgy
lgrgappve lcafepwkap gallslpape ppgrgrhds gplftklit epespgtogg asnggccaaa dvangppgfk
snmplapgqf
Class A (SEQ ID NO: 2)
3. **adrenergic receptor alpha-2A** [Homo sapiens]. ACCESSION AAG00447
npviytifn hdfrrafkki lrgdrkriv
Class A (SEQ ID NO: 3)
4. **alpha-2B-adrenergic receptor - human**. ACCESSION A37223
npviytifn qdfrraftri lcrpwtqtaw
Class A (SEQ ID NO: 4)
5. **alpha-2C-adrenergic receptor - human**. ACCESSION A31237
npviytfvn qdfrrsfkhi lfrmrgrfr q
Class A (SEQ ID NO: 5)
6. **beta-1-adrenergic receptor** [Homo sapiens]. ACCESSION NP_000675
npiiyrcs pdrfkafqgl lccarraarr rhathgdrpr asgclarpgp ppspgaasdd ddddvvgatp parllepwag
cnggaaadsd ssldepcrpg faseskv
Class A (SEQ ID NO: 6)
7. **beta-2 adrenergic receptor**. ACCESSION P07550
nplyicrsp dfriaqqell chrsslkay gngyssngnt 361 geqsgyhveq ekenklced lpgtedfvgh qgtvpsdnid
sqgmcstnd sll
Class A (SEQ ID NO: 7)
8. **dopamine receptor D1** [Homo sapiens]. ACCESSION NP_000785
npii yafnadfrka fstllgcyr1 cpatmaiet vsinnngaam fsshheprgs iskecnlvyl iphavgssed lkkecaagia
rpleklspal svildydtvd slekiqpitq ngqhpt
Class A (SEQ ID NO: 8)
9. **D(2) dopamine receptor**. ACCESSION P14416
npiiyttfn iefrkafiki lhc
Class A (SEQ ID NO: 9)

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Figure 3 (cont.)

10. **d3 dopamine receptor - human. ACCESSION G01977**
 np viyttfnief rkafikilsc
 Class A (SEQ ID NO: 10)
11. **dopamine receptor D4 - human. ACCESSION DYHUD4**
 npviyvtv fnaefinvfr kalracc
 Class A (SEQ ID NO: 11)
12. **dopamine receptor D5 - human. ACCESSION DYHUD5**
 npviya fnadfqkvfa qligcshfcs rtpvetvnis nelisynqdi vfhkeiaaay ihmmpnavtp gnrevdndee
 egpfdrmfqi yqtspdgdpv aesvweldce geisldkitp fipngfh
 Class A (SEQ ID NO: 12)
13. **muscarinic acetylcholine receptor M1 [Homo sapiens]. ACCESSION NP_000729**
 npmcyal cnkafrdtfr lllcrwdkr rwrkipkrpg svhrtpsrgc
 Class A (SEQ ID NO: 13)
14. **muscarinic acetylcholine receptor M2 [Homo sapiens]. ACCESSION NP_000730**
 npacy alcnatfkkt fikhlmchyk nigatr
 Class A (SEQ ID NO: 14)
15. **muscarinic acetylcholine receptor M3 [Homo sapiens]. ACCESSION NP_000731**
 n pvcyalcnkt frttfkmlil cqcdkdkrk qqyqqrsqi fhkrapeqal
 Class A (SEQ ID NO: 15)
16. **muscarinic acetylcholine receptor M4 [Homo sapiens]. ACCESSION NP_000732**
 npa cyalcnatfk ktfrhlilcq yrnigtar
 Class A (SEQ ID NO: 16)
17. **m5 muscarinic receptor. locus HUMACHRM ACCESSION AAA51569**
 npicyalcnr tfrtkfkmll lcrwkkkkve eklywqgnsk lp
 Class A (SEQ ID NO: 17)
18. **5-hydroxytryptamine (serotonin) receptor 1A [Homo sapiens]. ACCESSION BAA90449**
 npviy ayfnkdfqna fkkiikckf
 Class A (SEQ ID NO: 18)
19. **5-hydroxytryptamine (serotonin) receptor 1B [Homo sapiens]. ACCESSION BAA94455**
 npiiyt msnedfkqaf hklirfkcts
 Class A (SEQ ID NO: 19)
20. **5-hydroxytryptamine (serotonin) receptor 1E [Homo sapiens]. ACCESSION BAA94458**
 n pllytsfnd fklafkklir cre
 Class A (SEQ ID NO: 20)

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Figure 3 (cont.)

21. **OLFACTORY RECEPTOR 6A1.** ACCESSION O95222
npiiyclrnq evkralccil hlyqhdpdp kkgsmv
Class A (SEQ ID NO: 21)
22. **OLFACTORY RECEPTOR 2C1.** ACCESSION O95371
npliy tlrnmevkg lrrllgkgre vg
Class A (SEQ ID NO: 22)
23. **angiotensin receptor 1 [Homo sapiens].** ACCESSION NP_033611
npl fyglgkfk ryflqllkyi ppkakshsnl sfkmsfsyr psdnvssstk kpacfeve
Class B (SEQ ID NO: 23)
24. **angiotensin receptor 2 [Homo sapiens].** ACCESSION NP_000677
npflycf vgnrfqqklr svfrvpitwl qgkresmscr kssslremet fvs
Class B (SEQ ID NO: 24)
25. **interleukin 8 receptor beta (CXCR2) [Homo sapiens].** ACCESSION NM_001557
NPLIYAFIGQKFRHGLLKILAIHGLISKDSLKPDSRPSFVGSSSGHTSTTL
Class B (SEQ ID NO: 25)
26. **cx3c chemokine receptor 1 (cx3cr1) (fractalkine receptor)**
ACCESSION P49238
np liyafagekf rrylyhlygk clavicgrsv hvdffssesq rsrhgsvlss nftyhtsdgd allll
Class B (SEQ ID NO: 26)
27. **neurotensin receptor - human.** ACCESSION S29506
n pilynlvsan frhiflatla clcpvwrrr krpafsrkad svssnhflss natretly
Class B (SEQ ID NO: 27)
28. **SUBSTANCE-P RECEPTOR (SPR) (NK-1 RECEPTOR) (NK-1R).** ACCESSION P25103
npiiyccldnd rfrlgfkhafrccpfisagd yeglemkstr yltqgsvyk vsrletfstvvgahcecepe dgpkatpssl
dltsncssrs dskmtesfs fssnvl
Class B (SEQ ID NO: 28)
29. **vasopressin receptor type 2 [Homo sapiens].** ACCESSION AAD16444
npwiyasfss svsselsll ccargrtpps lgpqdesctt asslakdts s
Class B (SEQ ID NO: 29)
30. **thyrotropin-releasing hormone receptor - human.** ACCESSION JN0708
npviy nlmsqkfraa frlcnckqk ptekanysv alnysvikes dhfstelddi tvtdtylsaf kvsfddtela sevsfsqs
Class B (SEQ ID NO: 30)

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Figure 3 (cont.)

31. **oxytocin receptor - human.** ACCESSION A55493
 npwiyw lftghlfhel vqrfccsas ylkgrlget sasksnsss fvlshrsss rscsqpsta
 Class B (SEQ ID NO: 31)
32. **neuromedin U receptor [Homo sapiens].** ACCESSION AAG24793
 npvlyslmssrfretfgealcigacchrlprhsshslsrmmtgstlcdvgslgswvhplagndgpeaqgetdps
 Class B (SEQ ID NO: 32)
33. **gastrin receptor.** ACCESSION AAC37528
 nplvy cfmhrrfqa cletcarcep rpprarpral pdedpptpsi aslsrlsytt isflgpg
 Class B (SEQ ID NO: 33)
34. **galanin receptor 3 [Homo sapiens].** ACCESSION 10879541
 nplv yalashfra rfrlwpcgr rrrhraral rrvpassgp pgcpgdarps grillagggqg pepregpvhg geaargpe
 Class A (SEQ ID NO: 34)
35. **edg-1 - human.** ACCESSION A35300
 npiiy tltknemra firimscckc psgdsagkfk rpiiagmefs rsksdnsshp 361 qkdegdnpet imssgnvnss s
 Class A (SEQ ID NO: 35)
36. **central cannabinoid receptor [Homo sapiens].** ACCESSION NP_057167
 npiiyalr skdlrhafis mfpscegtaq pldnsmgdsd clkhannaa svhraesci kstvkiaikt msvstdtsae al
 Class A (SEQ ID NO: 36)
37. **delta opioid receptor - human.** ACCESSION I38532
 npviyaf ldenfkrcfr qlcrkpcgrp dpssfsrpre atarervtac tpsdgpgggr aa
 Class A (SEQ ID NO: 37)
38. **proteinase activated receptor 2 (PAR-2) human.** ACCESSION P55085
 dpfvyyfvshdfrdhaknallcrsvrtvkqmqvsltskkhsrksssysssttvktsy
 Class A (SEQ ID NO: 38)
39. **vasopressive intestinal peptide receptor (VIPR) rat.** ACCESSION NM_012685
 NGEVQAELRRKWRRWHLQGVLGWSSKSQHPWGGNGATCSTQVSMLTRVSPSARR
 SSSFQAEVSLV
 Class B (SEQ ID NO: 39)

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Figure 4A**Amino Acid sequence of the hGPR3- Enhanced Receptor**

MMWGAGSPLAWLSAGSGNVNVSSVGPAGPTGPAAPLPSPKAWDVVLCISGTLVSCB
NALVVAIIVGTPAFRAPMFLLVGSLAVADLLAGLGLVLHFAAVFCIGSAEMSLVLVG
VLAMAFASIGSLLAITVDRLSLYNALTYSETTVTRTYVMLALVWGGALGLGLLP
VLAWNCLDGLTTCGVVYPLSKNHLVVLAI AFFMVFGIMLQLYAQICRIVCRHAQQIA
LQRHLLPASHYVATRKGIATLAVVLGAFAACWLPFTVYCLLGDHSPPLYTYLTLLP
ATYNSMINPIIYAFRNQDVQKVLWAVCCCCAAARGRTPPSLGPDDESCCTASSSLAK
DTSS
(SEQ ID No: 40)

Figure 4B**Nucleotide sequence of the hGPR3- Enhanced Receptor**

ATGATGTGGGGTG CAGGCAGCCCTCTGGCCTGGCTCTCAGCTGGCTCAGGCAACGTG
AATGTAAGCAGCGTGGGCCCAGCAGAGGGGGCCACAGGTCCAGCCGCACCACTGCCC
TCGCCTAAGGCCTGGGATGTGGTGCTCTGCATCTCAGGCACCCTGGTGTCCTGCGAG
AATGCGCTAGTGGTGGCCATCATCGTGGGCACTCCTGCCTTCCGTGCCCCCATGTTC
CTGCTGGTGGGCAGCCTGGCCGTGGCAGACCTGCTGGCAGGCCTGGGCCTGGTCTTG
CACTTTGCTGCTGTCTTCTGCATCGGCTCAGCGGAGATGAGCCTGGTGCTGGTTGGC
GTGCTGGCAATGGCCTTTACYGCCAGCATCGGCAGTCTACTGGCCATCACTGTTCGAC
CGCTACCTTTCTCTGTACAATGCCCTCACCTACTATTTCAGAGACAACAGTGACACGG
ACCTATGTGATGCTGGCCTTAGTGTGGGGAGGTGCCCTGGGCCTGGGGCTGCTGCCT
GTGCTGGCCTGGAAGTGCCTGGATGGCCTGACACATGTGGCGTGGTTTATCCACTC
TCCAAGAACCATCTGGTAGTTCTGGCCATTGCCCTTCTTCATGGTGTTTGGCATCATG
CTGCAGCTCTACGCCCCAAATCTGCCGCATCGTCTGCCGCCATGCCAGCAGATTGCC
CTTCAGCGGCACCTGCTGCCTGCCTCCCACTATGTGGCCACCCGCAAGGGCATTGCC
ACACTGGCCGTGGTGCTTGGAGCCTTTGCCGCCTGCTGGTTGCCCTTCACTGTCTAC
TGCCTGCTGGGTGATGCCCACTCTCCACCTCTCTACACCTATCTTACCTTGCTCCCT
GCCACCTACAACCTCCATGATCAACCCTATCATCTACGCCTTCCGCAACCAGGATGTG
CAGAAAGTGCTGTGGGCTGTCTGCTGCTGTGTGCGGCCGCACGGGGACGCACCCCA
CCCAGCCTGGGTCCCCAAGATGAGTCCTGCACCACCGCCAGCTCCTCCCTGGCCAAG
GACACTTCATCGTGA
(SEQ ID No: 41)

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Figure 4C**Amino Acid sequence of the hGPR6- Enhanced Receptor**

MNASAASLND SQVVVVAEGAAAAATAAGGPD TGEWGPPAAAA LGAGGGANGSLELS
SQLSAGPPGLLLPAVNPWDVLLCVSGTVIAGENALVVALIASTPALRTPMFVLVGSL
ATADLLAGCGLILHFVFQYLV PSETVSLLT VGFVLVASF AASVSSLLA ITVD RYLSLY
NALTYYSRR TLLGVHLLLAATWTVSLGLGLLPVLGWNCLAE RAACSVVRPLARSHVA
LLSAAFFMVFGIMLHLYVRI CQVVRHAHQIALQQHCLAPPHLAATRKGVGTLAVVL
GTFGASWLPFAIYCVVGS HEDPAVYTYATLLPATYNSMINPIIYAFRNQEIQRALWL
LLCGCAAARGRTPPSLGPQDE SCTTASSSLAKDTSS
(SEQ ID No: 42)

Figure 4D**Nucleotide sequence of the hGPR6- Enhanced Receptor**

ATGAACGCGAGCGCCGCCTCGCTCAACGACTCCCAGGTGGTGGTAGTGGCGGCCGAA
GGAGCGGCGGCGGCGGCCACAGCAGCAGGGGGGCGGACACGGGCGAATGGGGACCC
CCTGCTGCGGCGGCTCTAGGAGCCGGCGGCGGAGCTAATGGGTCTCTGGAGCTGTCC
TCGCAGCTGTGCGGTGGGCCACCGGGACTCCTGCTGCCAGCGGTGAATCCGTGGGAC
GTGCTCCTGTGCGTGTGCGGGACAGTGATCGCTGGAGAAAACGCGCTGGTGGTGGCG
CTCATCGCGTCCACTCCGGCGCTGCGCACGCCCATGTTCTGTGCTGGTAGGCAGCCTG
GCCACCGCTGACCTGTTGGCGGGCTGTGGCCTCATCTTGCACTTTGTGTTCCAGTAC
TTGGTGCCCTCGGAGACTGTGAGTCTGCTCACGGTGGGCTTCCTCGTGGCCTCCTTC
GCCGCTCTGTGTCAGCAGCCTGCTGGCCATTACGGTGGACCGCTACCTGTCCCTGTAT
AACGCGCTCACCTATTACTCGCGCCGGACCCTGTTGGGCGTGACCTCCTGCTTGCC
GCCACTTGGAACCGTGTCCCTAGGCCTGGGGCTGCTGCCCCTGCTGGGCTGGAAC TGC
CTGGCAGAGCGCGCCGCTGTCAGCGTGGTGCGCCCGCTGGCGCGCAGCCACGTGGCT
CTGCTCTCCGCCGCCTTCTTCATGGTCTTCGGCATCATGCTGCACCTGTACGTGCGC
ATCTGCCAGGTGGTCTGGCGCCACGCGCACCAGATCGCGCTGCAGCAGCACTGCCTG
GCGCCACCCATCTCGCTGCCACCAGAAAGGGTGTGGGTACACTGGCTGTGGTGTGCTG
GGCACTTTCGGCGCCAGCTGGCTGCCCTTCGCCATCTATTGCGTGGTGGGCGAGCCAT
GAGGACCCGGCGGTCTACACTTACGCCACCCTGCTGCCCCGCCACCTACA ACTCCATG
ATCAATCCCATCATCTATGCCTTCCGCAACAGGAGATCCAGCGCGCCCTGTGGCTC
CTGCTCTGTGGCTGTGCGGCCGCACGGGGACGACCCCAACCAGCCTGGGTCCCCAA
GATGAGTCCTGCACCACCGCCAGCTCCTCCCTGGCCAAGGACACTTCATCGTGA
(SEQ ID No: 43)

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Figure 4E**Amino Acid sequence of the hGPR12- Enhanced Receptor**

MNEDLKVNLSGLPRDYLDAAAAENISAAVSSRVPVEPEPELVVNPWDIVLCTSGTL
ISCENAIIVVLIIFHNPSLRAPMFLIIGSLALADLLAGIGLITNFVFAYLLQSEATKL
VTIGLIVASFSAVCSLLAITVDRLSLYYALTYHSERTVTFTYVMLVMLWGTSICL
GLLPVMGWNCLRDESTCSVVRPLTKNNAAILSVSFLFMFALMLQLYIQICKIVMRHA
HQIALQHHFLATSHYVTTTRKGVSTLAILGTFAACWMPFTLYSLIADYTYPYIYTYA
TLLPATYNSIINPVIYAFRNQEIQKALCLICCGCAAARGRTPPSLGPQDESCTTASS
SLAKDTSS

(SEQ ID No: 44)

Figure 4F**Nucleotide sequence of the hGPR12- Enhanced Receptor**

ATGAATGAAGACCTGAAGGTCAATTTAAGCGGGCTGCCTCGGGATTATTTAGATGCC
GCTGCTGCGGAGAACATCTCGGCTGCTGTCTCCTCCCGGGTTCCTGCCGTAGAGCCA
GAGCCTGAGCTCGTAGTCAACCCCTGGGACATTGTCTTGTGTACCTCGGGAACCCCTC
ATCTCCTGTGAAAATGCCATTGTGGTCTTATCATCTTCCACAACCCCAGCCTGCGA
GCACCCATGTTCTGCTAATAGGCAGCCTGGCTCTTGCAGACCTGCTGGCCGGCATT
GGACTCATCACCAATTTTGTCTTTTGCCTACCTGCTTCAGTCAGAAGCCACCAAGCTG
GTCACGATCGGCCTCATTGTCGCCTCTTCTCTGCCTCTGTCTGCAGCTTGCTGGCT
ATCACTGTTGACCGCTACCTCTCACTGTACTACGCTCTGACGTACCATTGCGAGAGG
ACGGTCACGTTTACCTATGTCATGCTCGTCATGCTCTGGGGGACCTCCATCTGCCTG
GGGCTGCTGCCCGTCATGGGCTGGAAGTGCCTCCGAGACGAGTCCACCTGCAGCGTG
GTCAGACCGCTCACCAAGAACAACGCGGCCATCCTCTCGGTGTCCTTCTTTCATG
TTTGCCTCATGCTTCAGCTCTACATCCAGATCTGTAAGATTGTGATGAGGCACGCC
CATCAGATAGCCCTGCAGCACCCTTCTGGCCACGTCGCACTATGTGACCACCCGG
AAAGGGGTCTCCACCCTGGCTATCATCCTGGGGACGTTTGCTGCTTGCTGGATGCCT
TTCACCCTCTATTCTTGATAGCGGATTACACCTACCCCTCCATCTATACCTACGCC
ACCCTCCTGCCCGCCACCTACAATTCCATCATCAACCCTGTCATATATGCTTTTCTAGA
AACCAAGAGATCCAGAAAGCGCTCTGTCTCATTTGCTGCGGCTGCGCGGCCGCACGG
GGACGCACCCACCCAGCCTGGGTCCCCAAGATGAGTCCTGCACCACCGCCAGCTCC
TCCCTGGCCAAGGACACTTCATCGTGA

(SEQ ID No: 45)

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Figure 4G**Amino Acid sequence of the hSREB3- Enhanced Receptor**

MANTTGEPEEVSGALSPPSASAYVKLVLLGLIMCVSLAGNAILSLLVLKERALHKAP
YYFLDLCLADGIRSAVCFPFVLASVRHGSSWTFPSALSCKIVAFMAVLFCFHAAFML
FCISVTRYMAIAHHRFYAKRMTLWTCAAVICMAWTLVAMAFPPVFDVGTYKFIREE
DQCIFEHRYFKANDTLGFMLMLAVLMAATHAVYGKLLLFYRHRKMKPVQMPVAISO
NWTFFHGPATGQAAANWIAGFGRGMPPTLLGIRQNGHAASRLLGMDEVKGEKQLG
RMFYAITLLFLLWSPYIVACYWRVFKACAVPHRYLATAVWMSFAQAAVNPVCF
LNKDLKKCLRTHAPCAAARGRTPPSLGPQDESCTTASSSLAKDTSS
(SEQ ID No: 46)

Figure 4H**Nucleotide sequence of the hSREB3- Enhanced Receptor**

ATGGCCAACACTACCGGAGAGCCTGAGGAGGTGAGCGGCGCTCTGTCCCCACCGTCC
GCATCAGCTTATGTGAAGCTGGTACTGCTGGGACTGATTATGTGCGTGAGCCTGGCG
GGTAACGCCATCTTGTCCCTGCTGGTGCTCAAGGAGCGTGCCCTGCACAAGGCTCCT
TACTACTTCCTGCTGGACCTGTGCCTGGCCGATGGCATAACGCTCTGCCGTCTGCTTC
CCCTTTGTGCTGGCTTCTGTGCGCCACGGCTCTTCATGGACCTTCAGTGCACTCAGC
TGCAAGATTGTGGCCTTTATGGCCGTGCTCTTTTGCTTCCATGCGGCCTTCATGCTG
TTCTGCATCAGCGTCACCCGCTACATGGCCATCGCCCACCACCGCTTCTACGCCAAG
CGCATGACACTCTGGACATGCGCGGCTGTCTGTCATGGCCTGGACCTGTCTGTG
GCCATGGCCTTCCACCTGTCTTTGACGTGGGCACCTACAAGTTTATTTCGGGAGGAG
GACCAGTGCACTTTTGAGCATCGCTACTTCAAGGCCAATGACACGCTGGGCTTCATG
CTTATGTTGGCTGTGCTCATGGCAGCTACCCATGCTGTCTACGGCAAGCTGCTCCTC
TTCGAGTATCGTCACCGCAAGATGAAGCCAGTGACAGATGGTGCCAGCCATCAGCCAG
AACTGGACATTCCATGGTCCCGGGGCCACCGGCCAGGCTGCTGCCAACTGGATCGCC
GGCTTTGGCCGTGGGCCCATGCCACCAACCCTGCTGGGTATCCGGCAGAATGGGCAT
GCAGCCAGCCGGCGGCTACTGGGCATGGACGAGGTCAAGGGTGAAAAGCAGCTGGGC
CGCATGTTCTACGCGATCACACTGCTCTTTCTGCTCCTCTGGTCACCCTACATCGTG
GCCTGCTACTGGCGAGTGTTTGTGAAAGCCTGTGCTGTGCCCCACCGCTACCTGGCC
ACTGCTGTTTGGATGAGCTTCGCCCAGGCTGCCGTCAACCCAATTGTCTGCTTCCTG
CTCAACAAGGACCTCAAGAAGTGCCCTGAGGACTCACGCCCCCTGCGCGGCCGACGG
GGACGCACCCACCCAGCCTGGGTCCCCAAGATGAGTCCTGCACCACCGCCAGCTCC
TCCCTGGCCAAGGACACTTCATCGTGA
(SEQ ID No: 47)

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Figure 4I**Amino Acid sequence of the hSREB2- Enhanced Receptor**

MANYSHAADNILONLSPLTAFLKLTSLGFIIGVSVVGNLLISILLVKDKTLHRAPYY
FLLDLCCSDILRSAICFPFVFN SVKNGSTWTYGTLTCKVIAFLGVLSCFHTAFMLFC
ISVTRYLAIAHHRFYTKRLTFWTCLAVICMVWTL SVAMAFPPVLDVGTYSFIREEDQ
CTFQHRSF RANDSLGFMLLLALILLATQLVYLKLIFFVHDDRKM KPVOFVA AVSQNW
TFHGPGASGQAAANWLAGFGRGPTPPTLLGIRQNANTTGRRRLVLDEFKMEKRISR
MFYIMTFLFLTLWGPYLVACYWRVFARGPVVPGGFLTA AVWMSFAQAGINPFVCIFS
NRELRCFSTTLLYCAAARGRTPPSLGPQDESC TTASSSLAKDTSS
(SEQ ID No: 48)

Figure 4J**Nucleotide sequence of the hSREB2- Enhanced Receptor**

ATGGCGAACTATAGCCATGCAGCTGACAACATTTTGCAAAATCTCTCGCCTCTAACA
GCCTTTCTGAACTGACTTCCTTGGGTTTCATAATAGGAGTCAGCGTGGTGGGCAAC
CTCCTGATCTCCATTTTGCTAGTGAAAGATAAGACCTTG CATAGAGCACCTTACTAC
TTCTGTGGATCTTTGCTGTT CAGATATCCTCAGATCTGCAATTTGTTTCCCATTT
GTGTTCAACTCTGTCAAAAATGGCTCTACCTGGACTTATGGGACTCTGACTTGCAAA
GTGATTGCCTTTCTGGGGGTTTGTCTGTTTCCACACTGCTTTCATGCTCTTCTGC
ATCAGTGT CACCAGATACTTAGCTATCGCCATCACC GCTTCTATACAAAGAGGCTG
ACCTTTTGGACGTGTCTGGCTGTGATCTGTATGGTGTGGACTCTGTCTGTGGCCATG
GCATTTCCCCCGGTTT TAGACGTGGGCACCTTACTCATT CATTAGGGAGGAAGATCAA
TGCACCTTCCAACACCGCTCCTTCAGGGCTAATGATT CCTTAGGATTTATGCTGCTT
CTTGCTCTCATCCTCCTAGCCACACAGCTTGTCTACCTCAAGCTGATATTTTTCTGTC
CACGATCGAAGAAAAATGAAGCCAGTCCAGTTTGTAGCAGCAGTCAGCCAGAACTGG
ACTTTTCATGGTCTTGAGCCAGTGGCCAGGCAGCTGCCAATTGGCTAGCAGGATTT
GGAAGGGGTCCACACCACCCACCTTGCTGGGCATCAGGCAAAATGCAACACCACA
GGCAGAAGAAGGCTATTGGTCTTAGACGAGTTCAAAATGGAGAAAAGAATCAGCAGA
ATGTTCTATATAATGACTTTTCTGTTTCTAACCTTGTGGGGCCCCCTACCTGGTGGCC
TGTTATTGGAGAGTTTTTGCAAGAGGGCCTGTAGTACCAGGGGGATTTCTAACAGCT
GCTGTCTGGATGAGTTTTGCCCAAGCAGGAATCAATCCTTTTGTCTGCATTTTCTCA
AACAGGGAGCTGAGGCGCTGTTTCAGCACAACTTCTTTACTGCGCGGCCGCACGG
GGACGCACCCACCCAGCCTGGGTCCCCAAGATGAGTCCTGCACCACCGCCAGCTCC
TCCCTGGCCAAGGACACTTCATCGTGA
(SEQ ID No: 49)

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Figure 4K**Amino Acid sequence of the hGPR8- Enhanced Receptor**

MQAAGHPEPLDSRGSFSLPTMGANVSQDNGTGHNATFSEPLPFLYVLLPAVYSGICA
VGLTGNTAVILVILRAPKMKTVTNVFILNLAVADGLFTLVLPVNIAEHLLOQYWPFG
LLCKLVLAVDHYNIFSSIIYFLAVMSVDRLVVLATVRSRHPWRTYRGAKVASLCVW
LGVTVLVLPFFSFAGVYSNELQVPSCGLSFPWPERVWFKASRVYTLVLGFLPVCTI
CVLYTDLLRRLRAVRLRSGAKALGKARRKVTVLVLVLAVCLLCWTPFHLASVVALT
TDLPQTPLVISMSYVITSLSYANSCLNPFLYAFLDDNFRKNFRSILRCAAARGRTPP
SLGPQDESCTTASSSLAKDTSS
(SEQ ID No: 50)

Figure 4L**Nucleotide sequence of the hGPR8- Enhanced Receptor**

ATGCAGGCCGCTGGGCACCCAGAGCCCCTTGACAGCAGGGGCTCCTTCTCCCTCCCC
ACGATGGGTGCCAACGTCTCTCAGGACAATGGCACTGGCCACAATGCCACCTTCTCC
GAGCCACTGCCGTTCTCTATGTGCTCCTGCCCCGCGTGTACTCCGGGATCTGTGCT
GTGGGGCTGACTGGCAACACGGCCGTATCCTTGTAATCCTAAGGGCGCCCAAGATG
AAGACGGTGACCAACGTGTTTCATCCTGAACCTGGCCGTCGCCGACGGGCTCTTCACG
CTGGTACTGCCCGTCAACATCGCGGAGCACCTGCTGCAGTACTGGCCCTTCGGGGAG
CTGCTCTGCAAGCTGGTGCTGGCCGTGACCACTACAACATCTTCTCCAGCATCTAC
TTCCTAGCCGTGATGAGCGTGGACCGATACCTGGTGGTGCTGGCCACCGTGAGGTCC
CGCCACATGCCCTGGCGCACCTACCGGGGGGCGAAGGTGCCAGCCTGTGTGTCTGG
CTGGGCGTCACGGTCTGTTCTGCCCTTCTTCTCTTTGCTGGCGTCTACAGCAAC
GAGCTGCAGGTCCCAAGCTGTGGGCTGAGCTTCCCGTGGCCCGAGCGGGTCTGGTTC
AAGGCCAGCCGTGTCTACACTTTGGTCTGCGGCTTCGTGCTGCCCGTGTGCACCATC
TGTGTGCTCTACACAGACCTCCTGCGCAGGCTGCGGGCCGTGCGGCTCCGCTCTGGA
GCCAAGGCTCTAGGCAAGGCCAGGCGGAAGGTGACCGTCTGGTCTCGTCGTGCTG
GCCGTGTGCCCTCTGCTGGACGCCCTTCCACCTGGCCTCTGTCTGGCCCTGACC
ACGGACCTGCCCCAGACCCCACTGGTTCATCAGTATGTCCTACGTCATCACCAGCCTC
AGCTACGCCAACTCGTGCTGAACCCCTTCTCTACGCCTTTCTAGATGACAACTTC
CGGAAGAACTTCCGCAGCATATTGCGGTGCGCGGCCGACGGGGACGCACCCACCC
AGCCTGGGTCCCCAAGATGAGTCCTGCACCACCGCCAGCTCCTCCCTGGCCAAGGAC
ACTTCATCGTGA
(SEQ ID No: 51)

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Figure 4M**Amino Acid sequence of the hGPR22-Enhanced Receptor**

MCFSPILEINMQSESNITVRDDIDDINTNMYQPLSYPLSFQVSLTGFLMLEIVLGLG
SNLTVLVLYCMKSNLINSVSNIIITMNLHVLVDVVICVGCIPLTIVILLLSLESNTALI
CCFHEACVSFASVSTAINVFAITLDRYDISVKPANRILTMGRAVMLMISIWIFSFFS
FLIPFIEVNFSLQSGNTWENKTL LCVSTNEYYTELGMYHLLVQIPIFFFTVVVML
ITYTKILQALNIRIGTRFSTGQKKKARKKKTISLTTQHEATDMSQSSGGRNVVFGVR
TSVSVIIALRRVAKRHRERRERQKRVRMSLLIISTFLLCWTPISVLNTTILCLGPS
DLLVKLRLCFLVMAYGTTIFHPLLYAFTRQKFQKVLKSKMKRVC AAARGRTPPSL
GPQDESCTTASSSLAKDTSS
(SEQ ID No: 52)

Figure 4N**Nucleotide sequence of the hGPR22-Enhanced Receptor**

ATGTGTTTTTCTCCcaTTCTGGAAATCAACATGCAGTCTGAATCTAACATTACAGTG
CGAGATGACATTGATGACATCAACACCAATATGTACCAACCACTATCATATCCGTTA
AGCTTTCAAGTGTCTCTCACCGGATTTCTTATGTTAGAAATTGTGTTGGGACTTGGC
AGCAACCTCACTGTATTGGTACTTTACTGCATGAAATCCAACCTTAATCAACTCTGTC
AGTAACATTATTACAATGAATCTTCATGTACTTGATGTAATAATTTGTGTGGGATGT
ATTCTCTAACTATAGTTATCCTTCTGCTTTCACTGGAGAGTAACACTGCTCTCATT
TGCTGTTTCCATGAGGCTTGTTGTATCTTTTGCAAGTGTCTCAACAGCAATCAACGTT
TTTGCTATCACTTTGGACAGATATGACATCTCTGTAAACCTGCAAACCGAATTCTG
ACAATGGGCAGAGCTGTAATGTTAATGATATCCATTTGGATTTTTTCTTTTTTCTCT
TTCCTGATTCTTTTTATTGAGGTAAATTTTTTTCAGTCTTCAAAGTGGAAATACCTGG
GAAAACAAGACACTTTTATGTGTCAGTACAAATGAATACTACACTGAACTGGGAATG
TATTATCACCTGTTAGTACAGATCCCAATATTCTTTTTCACTGTTGTAGTAATGTTA
ATCACATACACCAAAATACTTCAGGCTCTTAATATTCGAATAGGCACAAGATTTTCA
ACAGGGCAGAAGAAGAAAGCAAGAAAGAAAAAGACAATTTCTCTAACCACACAACAT
GAGGCTACAGACATGTCACAAAGCAGTGGTGGGAGAAATGTAGTCTTTGGTGTAAAG
ACTTCAGTTTCTGTAATAATTGCCCTCCGCGAGCTGTGAAACGACACCGTGAACGA
CGAGAAAGACAAAAGAGAGTCTTCAGGATGTCTTTATTGATTATTTCTACATTTCTT
CTCTGCTGGACACCAATTTCTGTTTTAAATACCACCATTTTATGTTTAGGCCCAAGT
GACCTTTTAGTAAAATTAAGATTGTGTTTTTTAGTCATGGCTTATGGAACAACATA
TTTCACCCTCTATTATATGCATTCACTAGACAAAAATTTCAAAGGTCTTGAAAAGT
AAAATGAAAAGCGAGTTGTTTGTGCGGCCGCACGGGGACGCACCCACCCAGCCTG
GGTCCCAAGATGAGTCCTGCACCACCGCCAGCTCCTCCCTGGCCAAGGACACTTCA
TCGTGA
(SEQ ID No: 53)

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Figure 5A**Amino acid sequence of the β_2 AR-V2R chimera**

MGQPGNGSAFLAPNRSHAPDHDVTQQRDEVWVVGMGIVMSLIVLAIVFGNVLVITAI
AKFERLQTVTNYFITSLACADLVMGLAVVPFGAAHILMKMWTFGNFWCEFWTSIDVLC
VTASIELTCVIAVDRYFAITSPFKYQSLLTKNKARVILMVWIVSGLTSFLPIQMHWRAT
HQEAINCYANETCCDFFTNQAYAIASSIVSFYVPLVIMVFVYSRVFQEAKRQLQKIDKSE
GRFHVQNLSQVEQDGRGTGHGLRRSSKFCLKEHKALKTLGIIMGTFTLCWLPFFIVNIVHV
IQDNLIRKEVYILLNWIGYVNSGFNPLIYCRSPDFRIAFQELLCARGRTPPSLGPQDESCCT
ASSSLAKDTSS
(Seq. ID No. 54)

Figure 5B**Amino acid sequence of the MOR-V2R chimera**

MDSSTGPGNTSDCSDPLAQASCSPAGSWLNLSHVDGNQSDPCGLNRTGLGGNDSLCP
QTGSPSMVTAITMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDFR
TPRNAKIVNVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFIF
AFIMPILITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTPHIYVI
IKALITIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCAAARGRTPPSL
GPQDESCCTASSSLAKDTSS
(Seq. ID No. 55)

Figure 5C**Amino acid sequence of the D1AR-V2R chimera**

MAPNTSTMDEAGLPAERDFSFRILTACFLSLLILSTLLGNTLVCAAVIRFRHLRSKVTNFF
VISLAVSDLLVAVLVMPWKAVAEIAGFWPFGSFCNIWVAFDIMCSTASILNLCVISVDYR
WAISSPFQYERKMTPKAAFILISVAWTLISVLFIPVQLSWHKAKPTWPLDGNFTSLEDTE
DDNCDTRLRSRTYAISSSLISFYIPVAIMIVTYTSIYRIAQKQIRRIALERA AVHAKNCQTT
AGNGNPVECAQSESSFKMSFKRETIVLKTLSVIMGVFVCCWLPFFISNCMVFPFCGSEET
QPFCDISITFDVFVWFGWANSSLNPIYAFNADFQKAFSTLLGCYRLCAAARGRTPPSLGP
QDESCCTASSSLAKDTSS
(Seq. ID No. 56)

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Figure 5D**Amino acid sequence of the 5HT1AR-V2R chimera**

MDVLSPPGQGNNTTSPAPFETGGNTTGISDVTVSYQVITSLLLGTLLIFCAVLGNACVVAA
IALERSLQNVANYLIGSLAVTDLMVSVLVLPMAALYQVLNKWTLGQVTCDLFIALDVL
CCTSSILHLCAIALDRYWAITDPIDYVNKRTPRRAAALISLTWLIGFLISIPMLGWRTPED
RSDPDACTISKDHGYTYSTFGAFYIPLLLMLVLYGRIFRAARFRIRKTVKKVEKTGADT
RHGASPAPQPKKSVNGESGSRNWRLGVESKAGGALCANGAVRQGDDGAALIEVIEVHR
VGNSKEHLPLPSEAGPTPCAPASFERKNERNNAEAKRKMALARERKTVKTLGIIMGTFILC
WLPFFIVALVLPFCESSCHMPTLLGAIINWLGYSNLLNPVIYAYFNKDFQNAFKKIICN
FCAAARGRTPPSLGPQDESCTTASSSLAKDTSS
(Seq. ID No. 57)

Figure 5E**Amino acid sequence of the β 3AR-V2R chimera**

MAPWPHENSSLAPWPDLPNTANTSGLPVPWEAALAGALLALAVLATVGGNLLV
IVAIAWTPRLQTMNTNFVTSLAAADLVMGLLVPPAATLALTGHWPGLGATGCELWTSV
DVLCVTASIEITLCALAVDRYLAVTNPLRYGALVTKRCARTAVVLVWVVSAAVSFAPIM
SQWWRVGADAEAQCHSNPRCCAFASNMPYVLLSSVSFYLPLLVMLFVYARVFVVA
TRQLRLLRGELGRFPPEESPPAPSRSLAPAPVGTCAPEGVPACGRRPARLLPLREHRALC
TLGLIMGTFTLCWLPFFLANVLRALGGPSLVPGPAFLALNWLGYANSANPLIYCRSPDF
RSAFRLLCRCAAARGRTPPSLGPQDESCTTASSSLAKDTSS
(Seq. ID No. 58)

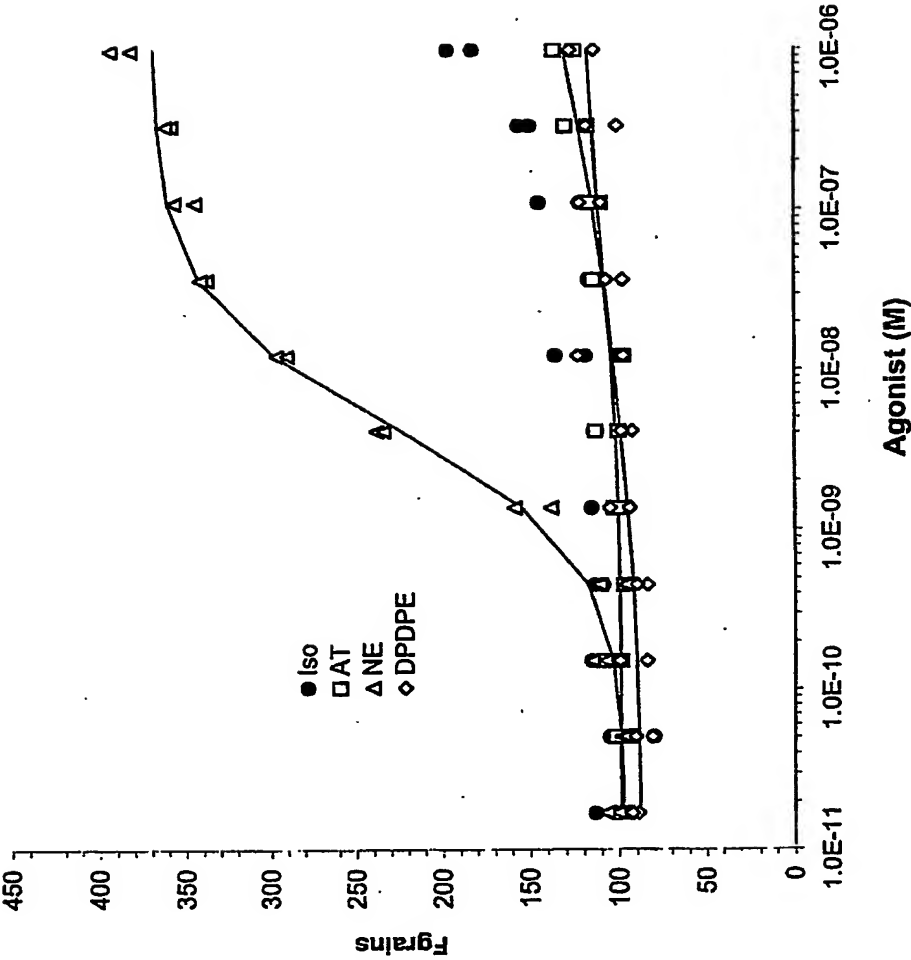
Figure 5F**Amino acid sequence of the Edg1R-V2R chimera**

MGPTSVPLVKahrSSVSDYVNYDIIVRHNYTGKLNISADKENSILKTSVVFILICCFIILE
NIFVLLTIWKTCKFHRPMYYFIGNLALSDLLAGVAYTANLLLSGATTYKLTTPAQWFLRE
GSMFVALSASVFSLIAIAJERYTTMLKMKLHNGSNFRLFLISACWVISLILGGLPIMGW
NCISALSSCSTVLPYHKHYILFCTTVFTLLLSIVILYCRIYSLVRTRSRLTFRKNISKAS
RSSEKSLALLKTVIIVLSVFIACWAPLFIILLDDVGCKVKTCDILFRAEYFLVLAVLNSGT
NPIIYTLTNKEMRRAFIRIMSCCKCAAARGRTPPSLGPQDESCTTASSSLAKDTSS
(Seq. ID No. 59)

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Figure 6A

$\alpha 1b$ -AR



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Figure 6B

AT1aR

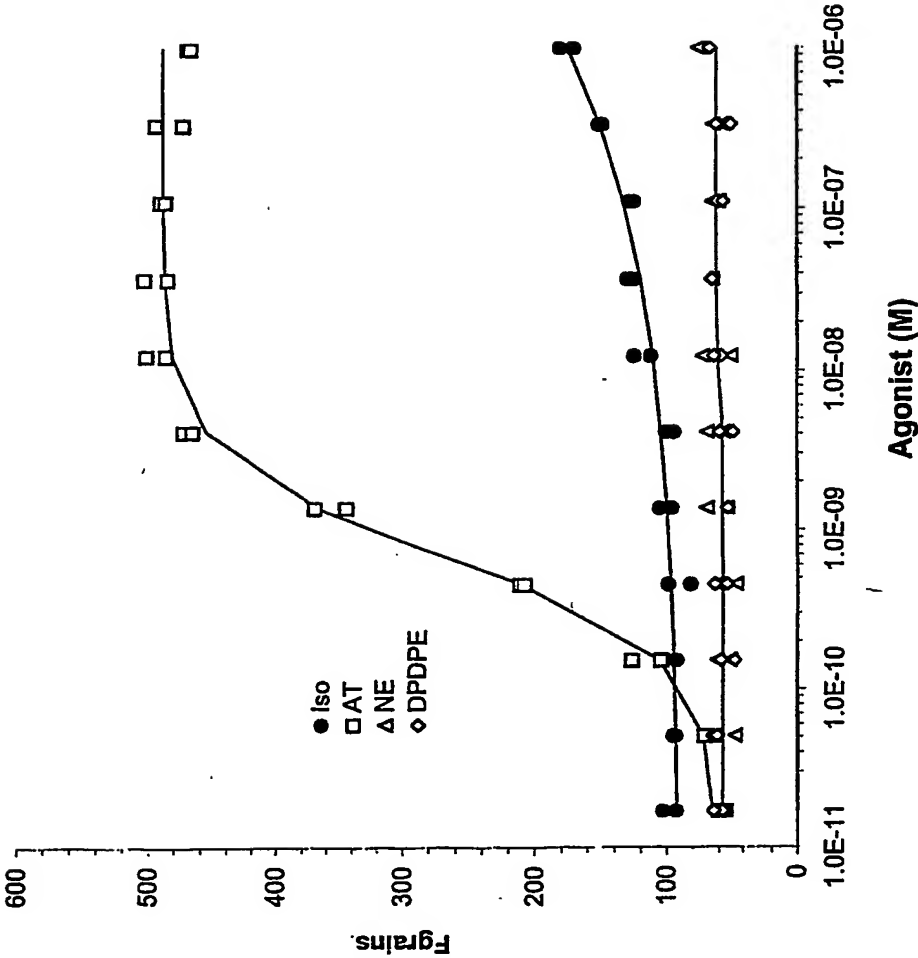
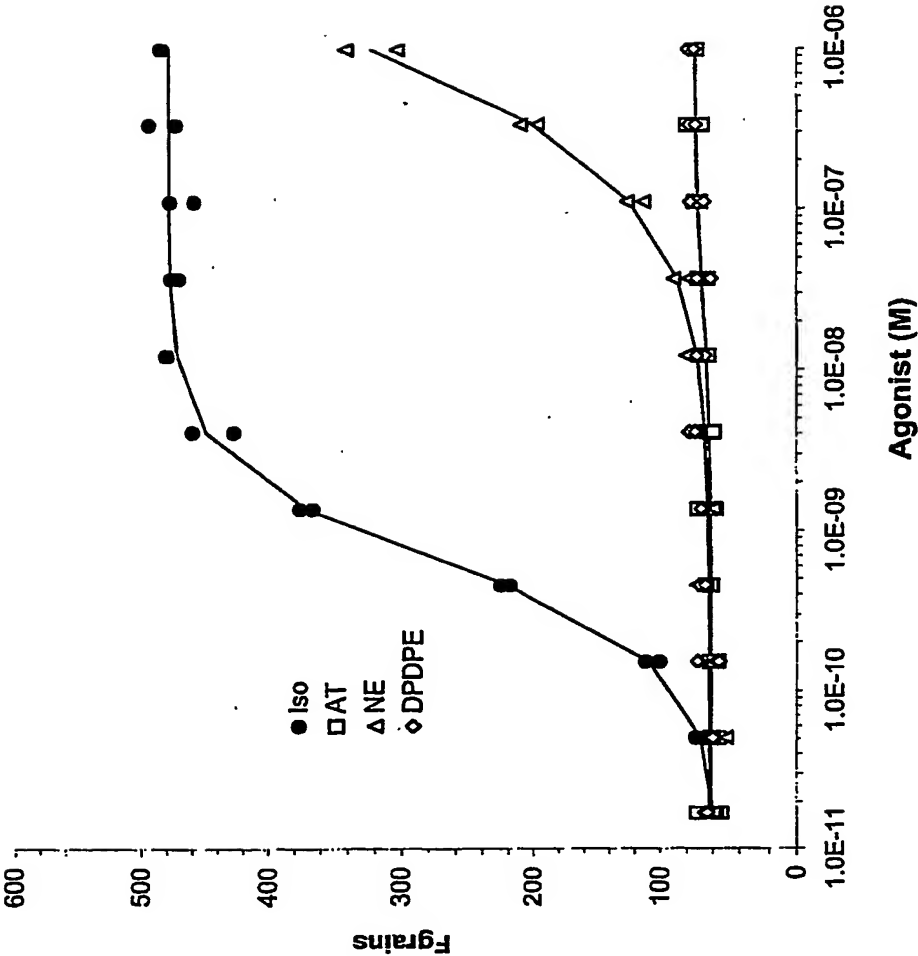


Figure 6C

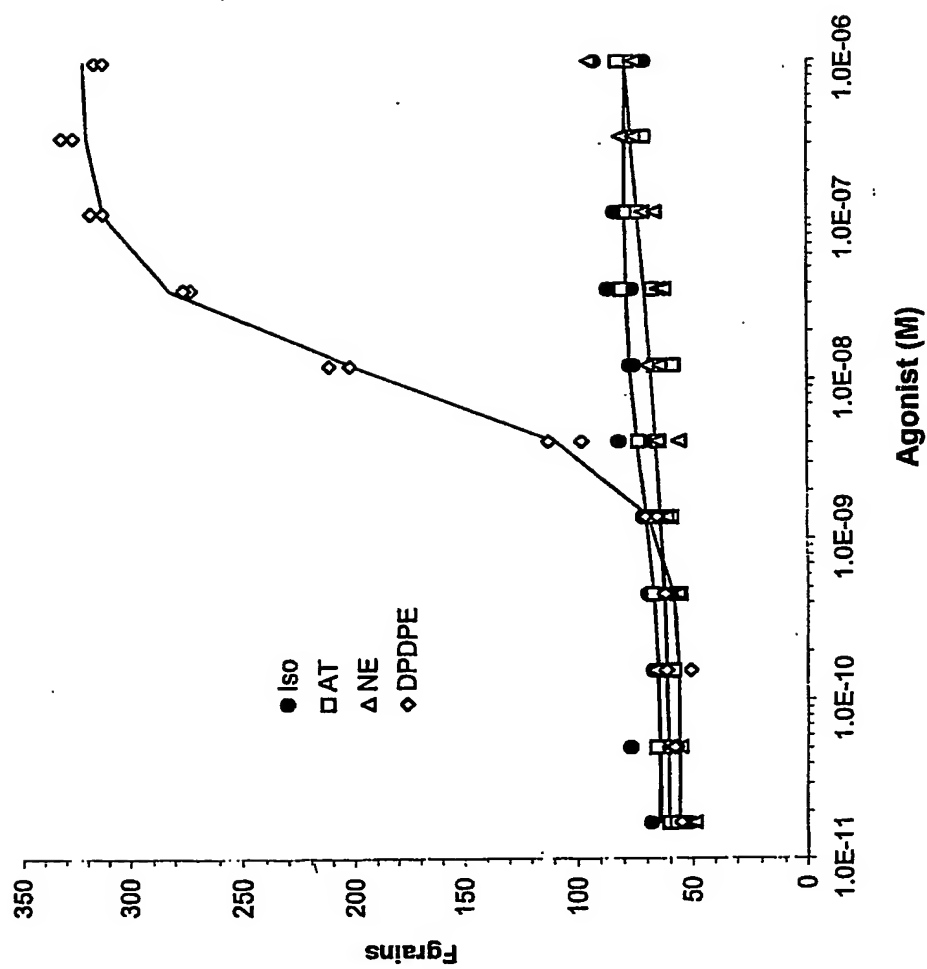
β2-AR



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Figure 6D

DOR



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Figure 6E

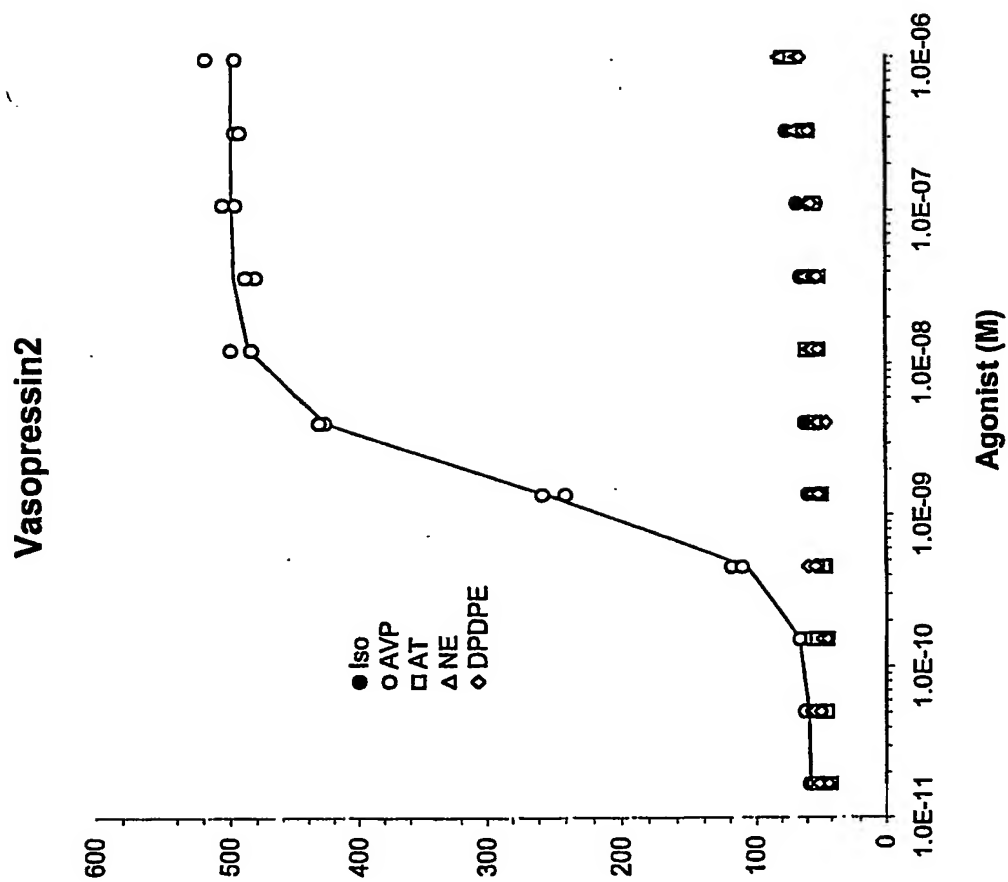
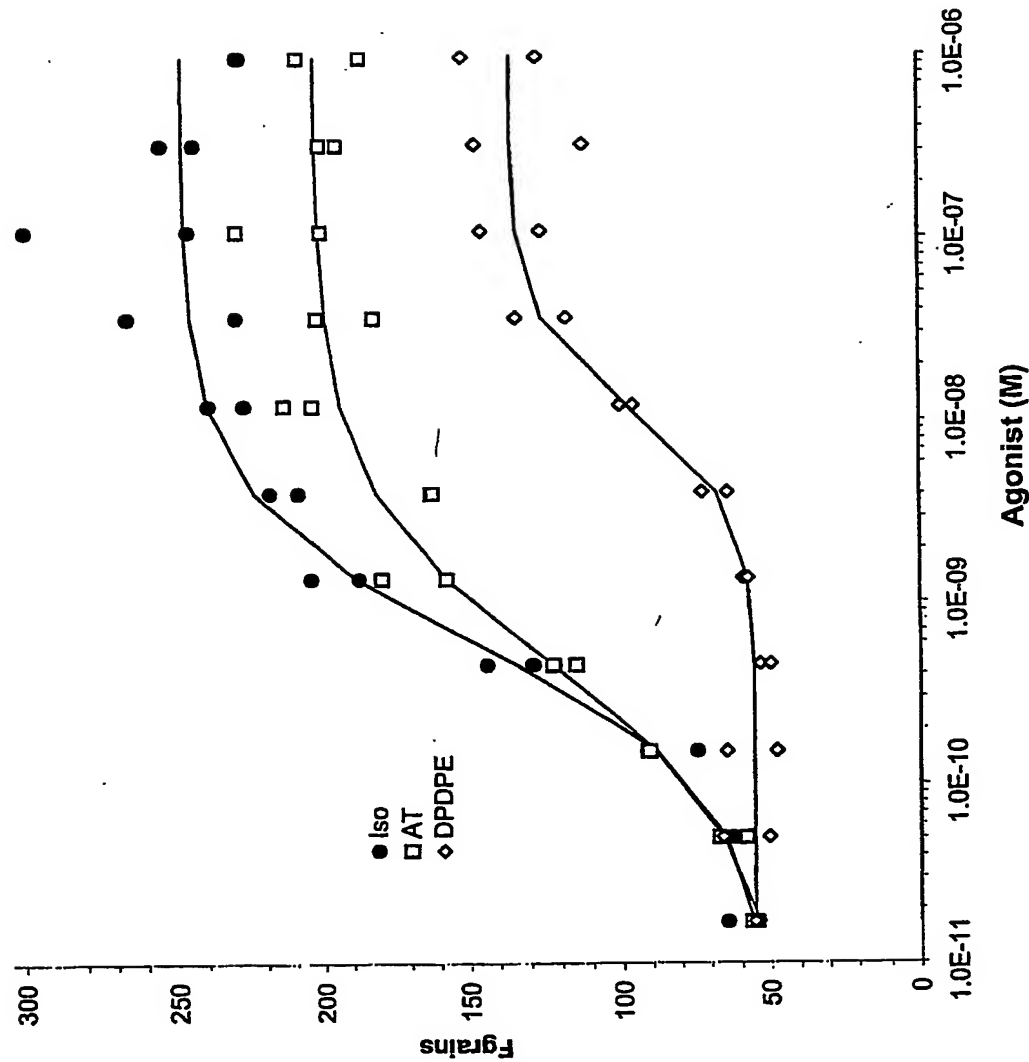
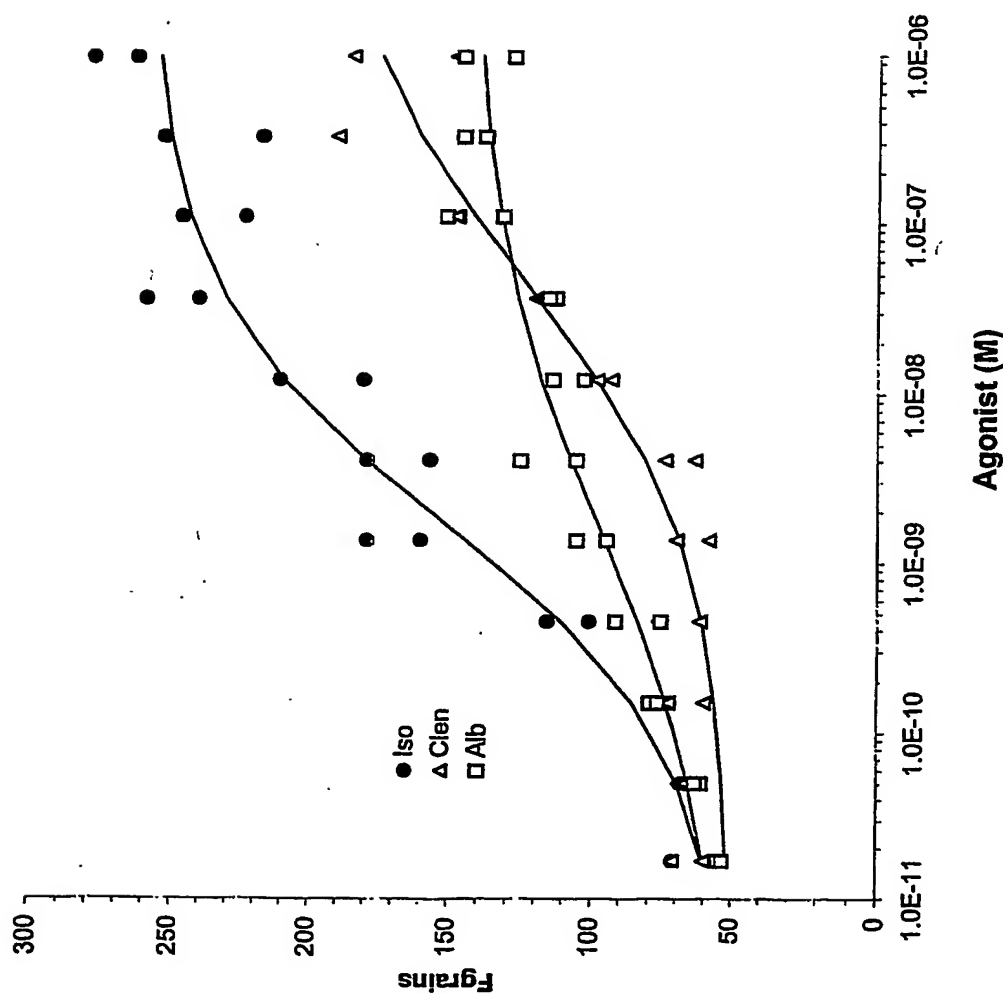


Figure 7



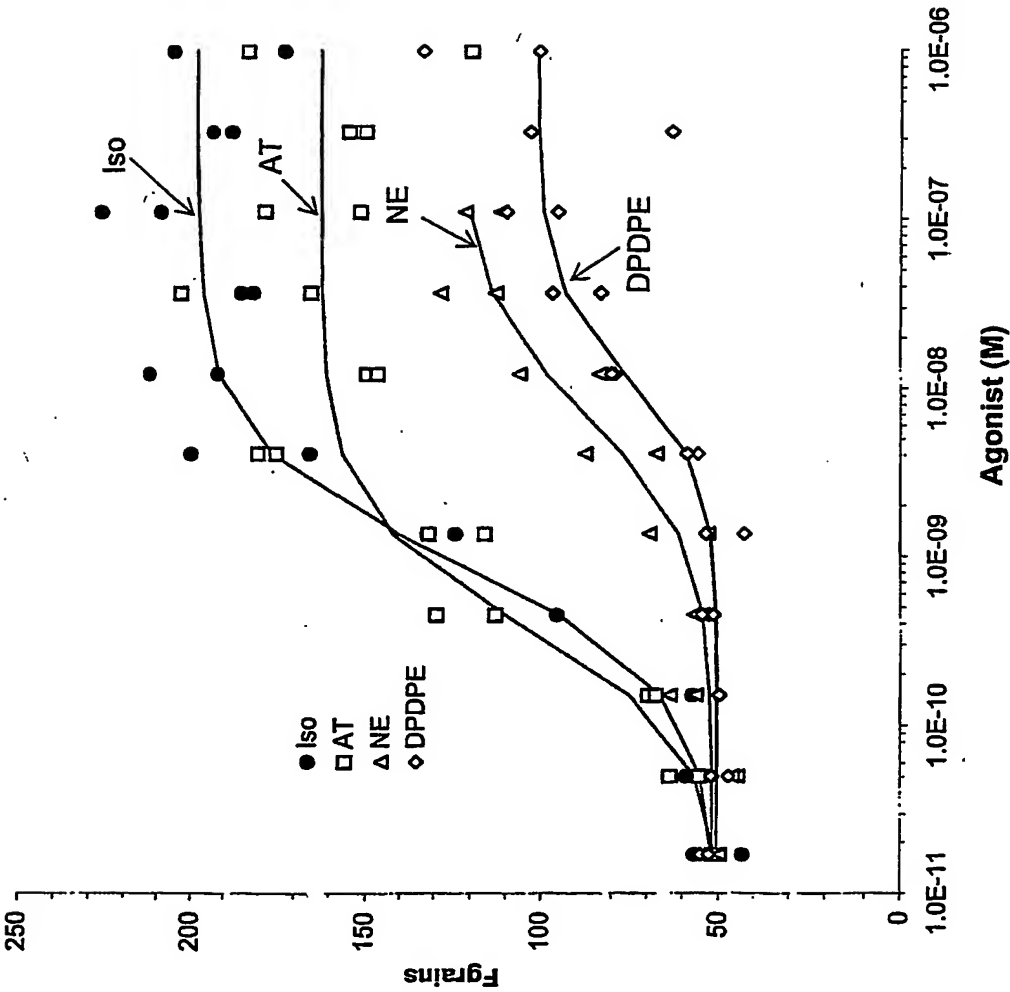
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Figure 8



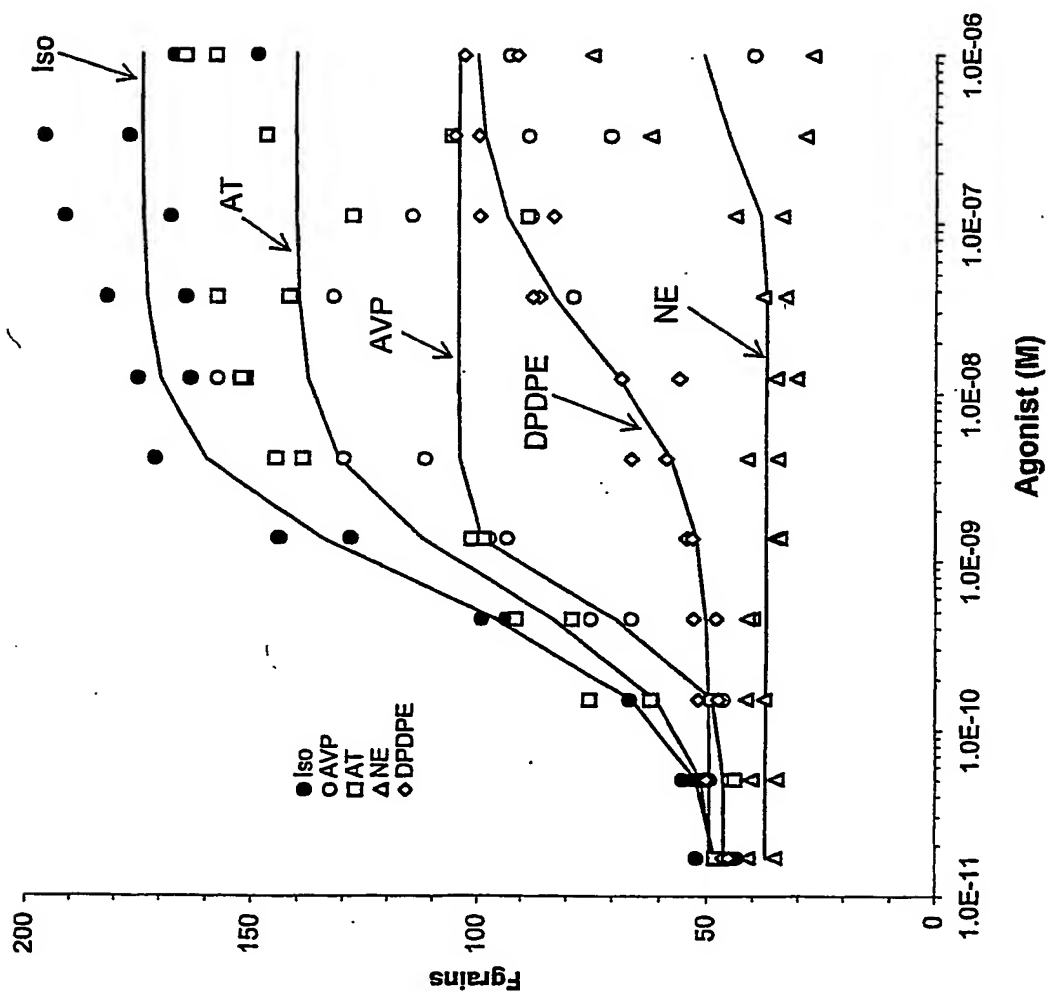
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Figure 9



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Figure 10



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Figure 11

α 1bAR	β 2AR	DOR	multi	Name
132	172	48	243	Terfenadine
125	189	85	213	Indatraline
101	152	83	208	Trifluoperazine
118	45	-4	111	(-)-Epinephrine
6	2	-3	110	Haloperidol
141	96	5	108	N-Methyldopamine
20	116	-4	99	p-Iodoclonidine
17	35	-4	83	S(+)-Isoproterenol
55	91	-1	77	R(-)-Isoproterenol
62	19	-4	75	Clonidine
-3	3	2	72	GABApentin
147	129	-4	68	(-)- α -Methylnorepinephrine
54	102	-1	66	(\pm)-Isoproterenol
-2	8	-2	63	Cyclosporin A
128	52	-7	61	L(-)-Norepinephrine
-2	-1	126	57	GR-89696 fumarate
41	83	45	54	Calcimycin
-4	-16	1	53	5'-N-Methyl carboxamidoadenosine
21	-9	3	52	R(-)-2,10,11-Trihydroxyaporphine
131	-8	-5	49	6-Fluoronorepinephrine
25	-6	7	47	WB-4101
5	5	-1	46	(\pm)-gamma-Vinyl GABA
8	-1	0	42	R(-)-SCH-12679
-11	0	-8	42	(\pm)-Vanillylmandelic acid
-6	-17	-4	40	Nimodipine
55	-5	-2	39	(\pm)-Octopamine
16	-11	2	38	(\pm)-SKF 38393
44	129	37	29	U-73122
53	0	-2	29	6,7-ADTN
7	5	44	28	SB 242084
9	61	5	26	NPC-15437
102	8	-4	26	Dopamine
-22	76	7	25	Sanguinarine
99	-1	-9	25	1-Methylhistamine
64	-6	-4	24	Methoxamine
71	140	0	20	Thioridazine
4	98	4	10	(\pm)-SKF-38393
4	2	64	9	ICI 204,448
74	10	-4	7	Phenylephrine
43	-9	2	4	R(-)-Apomorphine
8	-1	51	0	Nialamide
-7	46	-3	-3	(\pm)-CGP-12177A
18	40	-5	-6	(\pm)-6-Chloro-PB
85	-14	-4	-6	Cirazoline
11	125	-7	-7	SB 224289 HCl
23	68	-7	-9	GBR-12909 di
60	-12	-7	-10	R(-)-N-Allylnorapomorphine
4	57	1	-14	Tranylcypromine
-5	46	-3	-25	S(+)- α -Fluoromethylhistidine
130	6	1	-27	S(+)-Raclopride L-tartrate
-8	49	-4	-31	Thiothixene
5	219	-8	-31	Bethanechol

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Figure 12

α 1bAR	β 2AR	DOR	multi	Name	Selectivity
118.1	45.4	-3.6	110.6	(-)-Epinephrine	-
64.3	-5.7	-4.0	23.8	Methoxamine	alpha1
11.6	8.9	-3.1	10.0	Oxymetazoline	alpha2A
73.5	10.4	-3.6	7.2	Phenylephrine	alpha1
-6.9	46.1	-3.2	-2.6	(\pm)-CGP-12177A	beta
55.4	91.1	-1.1	77.0	R(-)-Isoproterenol	beta
17.1	35.1	-4.0	82.6	S(+)-Isoproterenol	beta
54.4	101.8	-0.9	65.7	(\pm)-Isoproterenol	beta
127.6	52.2	-7.0	61.4	L(-)-Norepinephrine	alpha, beta1
130.6	-7.5	-5.1	49.1	6-Fluoronorepinephrine	alpha
84.6	-13.6	-3.9	-6.5	Cirazoline	alpha1a
24.0	-3.2	-2.3	-35.2	Guanabenz acetate	alpha2
20.2	115.8	-4.3	99.2	p-Iodoclonidine	alpha2
34.2	6.9	-1.0	11.6	UK 14,304	alpha2
62.3	18.9	-3.6	75.5	Clonidine	alpha2
-2.0	-7.8	-6.7	-19.8	BRL 37344 sodium	beta3
23.4	5.1	-1.8	-1.0	Nylidrin	beta
20.1	-1.8	-10.9	-18.3	Xylazine	alpha2
23.9	9.7	-1.7	-5.7	p-Aminoclonidine	alpha2
7.2	9.1	6.4	9.3	Dobutamine	beta1
147.4	129.3	-4.1	68.0	(-)-alpha-Methyl NorEpi	-
54.7	-4.9	-2.4	39.2	(\pm)-Octopamine	alpha

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Figure 13

F	257°	102	66	86	86	62	67	123°	59	64	197°	90	86	60	65	63	62	71	56	60	65	200°
G	61	117°	78	80	157°	107	66	74	71	59	76	73	56	239°	109	47	64	58	62	52	82	54
H	220°	58	82	85	79	69	70	86	75	97	80	76	59	56	57	70	195°	52	52	67	65	59
I	219	215	198	214	210	213	214	242	240	232	229	212	186	206	145	144	72	87	50	50	52	54
J	81	150°	59	60	83	81	82	79	102°	103°	62	197°	63	65	204°	73	48	84	62	214°	57	59
K	90	72	67	216°	81	68	78	59	56	94	69	62	179°	65	77	53	59	44	66	60	39	54
L	72	79	102°	77	86	74	203°	66	62	53	62	72	61	61	70	72	199°	50	50	54	99°	70
M	309	273	239	277	177	175	159	203	143	156	118	140	87	84	80	64	75	66	57	67	57	82
N	120°	85	122°	70	60	75	84	79	64	78	56	74	60	74	60	73	49	48	70	63	63	77
O	106°	93	88	79	58	58	70	65	69	72	82	56	169°	60	87	63	89	259°	59	65	71	78
P	76	87	255°	95	66	79	73	77	143°	117°	58	62	73	70	62	75	76	71	57	160°	52	122°

□ indicates wells into which agonist was added

° = isoproterenol

°° = angiotensin

°°° = norepinephrine